



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/671,691      | 09/29/2003  | James Q. Feng        |                     | 7426             |

7590 07/27/2006

James Q. Feng  
18 County Clare Crescent  
Fairport, NY 14450

| EXAMINER |
|----------|
|----------|

HOUSTON, ELIZABETH

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

3731

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/671,691

Applicant(s)

FENG ET AL.

Examiner

Elizabeth Houston

Art Unit

3731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Information Disclosure Statement*

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### *Drawings*

2. Figure 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because the drawing in Figure 1 is not clearly labeled. It is not clear to which parts of the stent the arrows depicted by 31, 32, and 33 are pointing.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "curvatures of the arc segments are varied" as in claim 16, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

5. The disclosure is objected to because of the following informalities: typo (page 9, line 17) "can be modified to as arc segments".

Appropriate correction is required.

### ***Claim Objections***

6. Claim 5 is objected to because of the following informalities: It is unclear whether claim 5 is intended to claim a structure or a process. Based on the language of the preceding claims, examiner will assume it was intended to be considered an apparatus claim and as such will not be given much patentable weight to the design process. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-6, 13, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Globerman (USPN 5,776,161).

9. Globerman discloses a balloon expandable stent having annular segments (65) with alternating peaks and valleys consisting of an arc segment (having an arc angle more than 180 degrees) and straight segment. The stent has bridge elements (69)

Art Unit: 3731

connected to the annular segments midway between the peaks and valleys. The stent maintains the same longitudinal dimension in the compressed and expanded state (Col 3, line 39-41). The curvatures of the arc segments are varied in that they alternate direction between annular segments as in figure 21 or they do not line up as in figure 22.

10. Claims 1-8, 10, 11, 13, 14 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Vallana (USPN 6,451,049).

11. Vallana discloses a balloon expandable stent having annular segments with alternating peaks and valleys consisting of an arc segment (4) and straight segment (2). The stent has bridge elements (8) connected to the annular segments midway between the peaks and valleys. The stent maintains the same longitudinal dimension in the compressed and expanded state (Col 5, line 44-47). The stent can be made of stainless steel or nitinol (Col 8, line 55-65). Several embodiments show closed cells and open cells. The curvatures of the arc segments are varied in that they alternate direction between annular segments (peaks of one segment face peaks of another).

12. Claims 1-8, 10, 11, 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Hong (USPN 6,749,629)

Hong discloses a balloon expandable stent having annular segments with alternating peaks and valleys consisting of an arc segment (148) (having an arc angle more than 180 degrees) and straight segment (150). The stent has bridge elements

Art Unit: 3731

(154) connected to the annular segments midway between the peaks and valleys. The stent maintains the same longitudinal dimension in the compressed and expanded state (Col 2, line 58-60). The stent can be made of stainless steel (Col 8, line 43-45) or nitinol (Col 2, line 42-4). The curvatures of the arc segments are varied in that they alternate direction between annular segments (peaks of one segment face peaks of another).

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Globerman.

15. Globerman discloses the device substantially claimed as stated above except for the material and the drug coating. It would have been obvious to one having ordinary skill in the art at the time of the invention to make a stent from material such as gold, stainless steel or nitinol since it is old and well known in the art that these materials are ideal since they provide strength and flexibility and are biocompatible. It would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate a drug coating to prevent blood coagulation since it is an enhancement to stents that is old and well known in order to keep blood flowing freely through the lumen.

16. Claims 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vallana.

17. Claims 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hong.

18. Vallana and Hong disclose the device substantially claimed as stated above except for the material and the drug coating. It would have been obvious to one having ordinary skill in the art at the time of the invention to make a stent from material such as gold since it is a known equivalent material for use in making stents. It would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate a drug coating to prevent blood coagulation since it is an enhancement to stents that is old and well known in order to keep blood flowing freely through the lumen.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Houston whose telephone number is 571-272-7134. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anhtuan Nguyen can be reached on 571-272-4963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 3731

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

eh



**ANH TUAN T. NGUYEN**  
**SUPERVISORY PATENT EXAMINER**

7/21/06